



Montana Department of  
**ENVIRONMENTAL QUALITY**

Brian Schweitzer, Governor

P. O. Box 200901

Helena, MT 59620-0901

(406) 444-2544

Website: [www.deq.mt.gov](http://www.deq.mt.gov)

ADMINISTRATIVE AMENDMENT  
TO MONTANA AIR QUALITY PERMIT

Date of Mailing: July 31, 2008

Name of Applicant: Knife River Corporation

Source: Portable asphalt plant

Location: Various locations across Montana

Proposed Action: The Department of Environmental Quality (Department) proposes to issue an Administrative Amendment, with conditions, to the above-named permittee. The permit will be assigned #2606-02. The permittee may appeal the Department's decision to the Board of Environmental Review (Board). A request for hearing must be filed by August 15, 2008. This permit shall become final on August 16, 2008, unless the Board orders a stay on the permit.

Proposed Conditions: See attached.

Procedures for Appeal: The permittee may request a hearing before the Board. Any appeal must be filed before the final date stated above. The request for hearing shall contain an affidavit setting forth the grounds for the request. Any hearing will be held under the provisions of the Montana Administrative Procedures Act. Submit requests for hearing in triplicate to: Chairman, Board of Environmental Review, P.O. Box 200901, Helena, Montana 59620.

For the Department,

Vickie Walsh  
Air Permitting Program Supervisor  
Air Resources Management Bureau  
(406) 444-3490

Christine A. Weaver  
Air Quality Specialist  
Air Resources Management Bureau  
(406) 444-5287

VW:cw  
Enclosure

## AIR QUALITY PERMIT

Issued To: Knife River Corporation  
P.O. Box 9  
Belgrade, MT 59714

Permit #2606-02  
Administrative Amendment (AA)  
Request Received: 01/24/08  
Department's Decision on AA: 07/31/08  
Permit Final:  
AFS #: 777-2606

An air quality permit, with conditions, is granted to Knife River Corporation (Knife River) pursuant to Sections 75-2-204 and 211, Montana Code Annotated (MCA), as amended, and Administrative Rules of Montana (ARM) 17.8.740, *et seq.*, as amended, for the following:

### SECTION I: Permitted Facilities

#### A. Plant Location

Knife River owns and operates a portable batch-mix asphalt plant and associated equipment to be originally located at Section 7, Township 1 South, Range 5 East in Gallatin County, Montana. The physical address is 21730 Highway 10, Belgrade, Montana. However, Permit #2606-02 applies while operating at any location in Montana, except within those areas having a Department of Environmental Quality (Department)-approved permitting program, those areas considered tribal lands, or those areas in or within 10 kilometers (km) of certain particulate matter with an aerodynamic diameter of 10 microns or less (PM<sub>10</sub>) nonattainment areas. Knife River will be required to obtain an addendum to this air quality permit to operate at locations in or within 10 km of certain PM<sub>10</sub> nonattainment areas. *A Missoula County air quality permit will be required for locations within Missoula County, Montana.*

A complete list of the permitted equipment is contained in Section I.A of the Permit Analysis.

#### B. Current Permit Action

On January 24, 2008, the Department received a request to change the permittee name from JTL Group, Inc. to Knife River. The current permit action is an administrative amendment pursuant to ARM 17.8.764 that changes the permittee name as requested. In addition to accounting for this name change, the permit updates the rule references, permit format, and the emissions inventory. Because of increases in the emission factor used to calculate carbon monoxide (CO) emissions from the batch mix asphalt plant dryer, further restrictions on annual hours of operation were taken to maintain Knife River's synthetic minor source status with respect to the Title V Operating Permit Program.

### SECTION II: Conditions and Limitations

#### A. Emission Limitations

1. Asphalt plant particulate matter emissions shall be limited to 0.10 grains per dry standard cubic foot (gr/dscf) (ARM 17.8.749).

2. Knife River shall be limited to a maximum of 1,375 hours during any twelve-month rolling period (ARM 17.8.749 and ARM 17.8.1204).
3. Knife River shall not cause or authorize to be discharged into the atmosphere from the asphalt plant stack emissions that exhibit 20% opacity or greater averaged over 6 consecutive minutes (ARM 17.8.304).
4. Knife River shall not cause or authorize to be discharged into the atmosphere from systems for screening, handling, storing, and weighing hot aggregate; systems for loading, transferring, and storing mineral filler; systems for mixing hot mix asphalt; and the loading, transfer, and storage systems associated with emission control systems, any visible emissions that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.308).
5. Knife River shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter (ARM 17.8.308).
6. Knife River shall treat all unpaved portions of the haul roads, access roads, and the general plant area with water and/or chemical dust suppressant as necessary to maintain compliance with the reasonable precautions limitation in Section II.A.5 (ARM 17.8.749).
7. A device to measure the pressure drop (magnehelic gauge, manometer, etc.) on the control device (baghouse) must be installed and maintained. Pressure drop must be measured in inches of water. Temperature indicators at the control device inlet and outlet must be installed and maintained (ARM 17.8.749).
8. Once a stack test is performed, the asphalt production rate shall be limited to the average production rate during the last source test demonstrating compliance (ARM 17.8.749).
9. If the permitted equipment is used in conjunction with any other equipment owned or operated by Knife River, at the same site, production shall be limited to correspond with an emission level that does not exceed 250 tons during any rolling 12-month period. Any calculations used to establish production levels shall be approved by the Department (ARM 17.8.749).

B. Emission Testing

1. An Environmental Protection Agency (EPA) Methods 1-5 source test shall be performed on the asphalt plant to demonstrate compliance with Section II.A.1. An EPA Method 9 opacity test shall be performed in conjunction with all particulate tests to demonstrate compliance with the conditions specified in Section II.A.3 and 4. These source tests must be performed on the asphalt plant every four years to demonstrate compliance with the conditions specified in Section II.A.1, 3, and 4 (ARM 17.8.105 and ARM 17.8.749).
2. Pressure drop on the control device and temperatures must be recorded during the test and reported as part of the test results (ARM 17.8.749).
3. Since asphalt production will be limited to the average production rate during the test, it is suggested the test be performed at the highest production rate practical (ARM 17.8.749).

4. Knife River may retest at any time in order to test at a higher production rate (ARM 17.8.749).
5. All source tests must be conducted in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).
6. The Department may require further testing (ARM 17.8.105).

C. Reporting Requirements

1. If this asphalt plant is moved to another location, an Intent to Transfer form must be sent to the Department and a Public Notice Form for Change of Location must be published in a newspaper of general circulation in the area to which the transfer is to be made, at least 15 days prior to the move. The proof of publication (affidavit) of the Public Notice Form for Change of Location must be submitted to the Department prior to the move. These forms are available from the Department (ARM 17.8.749 and ARM 17.8.765).

2. Knife River shall supply the Department with annual production information for all emission points, as required by the Department in the annual emission inventory request. The request will include, but not be limited to, all sources of emissions identified in the emission inventory contained in the permit analysis.

Production information shall be gathered on a calendar-year basis and submitted to the Department by the date required in the emission inventory request. Information shall be in the units required by the Department. This information may be used for calculating operating fees, based on actual emissions from the facility, and/or to verify compliance with permit limitations (ARM 17.8.505).

3. Knife River shall notify the Department of any construction or improvement project conducted, pursuant to ARM 17.8.745, that would include ***the addition of a new emissions unit***, change in control equipment, stack height, stack diameter, stack flow, stack gas temperature, source location, or fuel specifications, or would result in an increase in source capacity above its permitted operation. The notice must be submitted to the Department, in writing, 10 days prior to startup or use of the proposed de minimis change, or as soon as reasonably practicable in the event of an unanticipated circumstance causing the de minimis change, and must include the information requested in ARM 17.8.745(l)(d) (ARM 17.8.745).
4. Knife River shall maintain on-site records showing daily hours of operation and daily production rates for the last 12 months. The records compiled in accordance with this permit shall be maintained by Knife River as a permanent business record for at least 5 years following the date of the measurement, must be available at the plant site for inspection by the Department, and must be submitted to the Department upon request (ARM 17.8.749).
5. Knife River shall document, by month, the hours of operation of the asphalt plant. By the 25<sup>th</sup> day of each month, Knife River shall calculate the hours of operation for the facility for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.2. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).

6. Knife River shall annually certify that its emissions are less than those that would require the facility to obtain an air quality operating permit as required by ARM 17.8.1204(3)(b). The annual certification shall comply with the certification requirements of ARM 17.8.1207. The annual certification shall be submitted along with the annual emissions inventory information (ARM 17.8.749 and ARM 17.8.1204).

### SECTION III: General Conditions

- A. Inspection – Knife River shall allow the Department's representatives access to the source at all reasonable times for the purpose of making inspections or surveys, collecting samples, obtaining data, auditing any monitoring equipment (CEMS, CERMS) or observing any monitoring or testing, and otherwise conducting all necessary functions related to this permit.
- B. Waiver – The permit and all the terms, conditions, and matters stated herein shall be deemed accepted if Knife River fails to appeal as indicated below.
- C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving Knife River of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided for in ARM 17.8.740, *et seq.* (ARM 17.8.756)
- D. Enforcement – Violations of limitations, conditions and requirements contained herein may constitute grounds for permit revocation, penalties or other enforcement as specified in Section 75-2-401, *et seq.*, MCA.
- E. Appeals – Any person or persons jointly or severally adversely affected by the Department's decision may request, within 15 days after the Department renders its decision, upon affidavit setting forth the grounds therefore, a hearing before the Board of Environmental Review (Board). A hearing shall be held under the provisions of the Montana Administrative Procedures Act. The filing of a request for a hearing does not stay the Department's decision, unless the Board issues a stay upon receipt of a petition and a finding that a stay is appropriate under Section 75-2-211(11)(b), MCA. The issuance of a stay on a permit by the Board postpones the effective date of the Department's decision until conclusion of the hearing and issuance of a final decision by the Board. If a stay is not issued by the Board, the Department's decision on the application is final 16 days after the Department's decision is made.
- F. Permit Inspection – As required by ARM 17.8.755, Inspection of Permit, a copy of the air quality permit shall be made available for inspection by Department personnel at the location of the permitted source.
- G. Permit Fee – Pursuant to Section 75-2-220, MCA, as amended by the 1991 Legislature, failure to pay the annual operation fee by Knife River may be grounds for revocation of this permit, as required by that section and rules adopted thereunder by the Board.
- H. Construction Commencement – Construction must begin within 3 years of permit issuance and proceed with due diligence until the project is complete or the permit shall be revoked (ARM 17.8.762).

- I. The Department may modify the conditions of this permit based on local conditions of any future site. These factors may include, but are not limited to, local terrain, meteorological conditions, proximity to residences, etc.
- J. Knife River shall comply with the conditions contained in this permit while operating in any location in Montana, except within those areas that have a Department-approved permitting program or areas considered tribal lands.

Permit Analysis  
Knife River Corporation  
Permit #2606-02

I. Introduction/Process Description

Knife River Corporation (Knife River) owns and operates a portable batch-type asphalt plant that operates in various locations around Montana.

A. Permitted Equipment

Knife River owns and operates a portable 1971 Stansteel SF-120B batch-type asphalt plant, (maximum production rate of 360 tons per hour (TPH)) and associated equipment. The plant includes:

- Aggregate rotary dryer (with 1998 Gencor natural gas burner rated @ 114 million British thermal units per hour (MMBtu/hr));
- Asphalt cement storage (with circa 2000 Gentec natural gas-fired rated @ 2.2 MMBtu/hr);
- Batch tower;
- Mixing unit;
- Lime silos (35 ton and 40 ton); and
- Associated Equipment.

B. Source Description

For a typical operational set-up, crushed rock is loaded and metered onto the conveyor belt, where it is conveyed to the dryer. Material is dried and heated to approximately 330 degrees Fahrenheit (°F). The dry, hot aggregate is then elevated to the top of the batch tower where it is screened and separated into hot bins. Pre-determined weights of sized aggregate are dropped into the weigh-hopper and then into a pugmill where it is mixed with liquid asphalt and discharged into a truck.

C. Permit History

On September 21, 1989, Pioneer Ready Mix, Inc. (Pioneer) was issued **Permit #2606-00** to operate a portable 1971 Stansteel SF-120B batch-type asphalt plant, (maximum production rate of 360 TPH) and associated equipment. The facility operates at various locations in Montana. Subsequently, on September 29, 1995, a letter was submitted to clarify that Pioneer had changed their name to JTL Group, Inc. (JTL).

The Department of Environmental Quality (Department) received a request on September 26, 1997, to modify Permit #2606-00. The company changed names from Pioneer Ready Mix to JTL. This permit modification updated the name change, and the permit format. Also, an hourly operational limit was added to the permit to allow the facility to stay below the Prevention of Significant Deterioration (PSD) threshold levels. A review was conducted during the original permit issuance, but the Department failed to consider carbon monoxide (CO) emissions. **Permit #2606-01** replaced Permit #2606-00.

D. Current Permit Action

On January 24, 2008, the Department received a request to change the permittee name from JTL to Knife River. The current permit action is an administrative amendment pursuant to Administrative Rules of Montana (ARM) 17.8.764 that changes the permittee name as requested.

In addition to accounting for this name change, the permit updates the rule references, permit format, and emissions inventory. Part of the reason for the inventory update was to ensure that the facility has not triggered the New Source Performance Standards (NSPS) for Hot Mix Asphalt Plants. Since only the burners and the 6 bin feeder for the batch plant have been replaced since 1971, Knife River has not exceeded the 50% cost threshold and is not considered an NSPS Subpart I facility.

Because of increases in the emission factor used to calculate CO emissions from the batch mix asphalt plant dryer, further restrictions on annual hours of operation were taken to maintain Knife River's synthetic minor source status with respect to the Title V Operating Permit Program. **Permit #2606-02** replaces Permit #2606-01.

E. Additional Information

Additional information, such as applicable rules and regulations, Best Available Control Technology (BACT)/Reasonably Available Control Technology (RACT) determinations, air quality impacts, and environmental assessments, is included in the analysis associated with each change to the permit.

II. Applicable Rules and Regulations

The following are partial explanations of some applicable rules and regulations that apply to the facility. The complete rules are stated in the ARM and are available, upon request, from the Department. Upon request, the Department will provide references for location of complete copies of all applicable rules and regulations or copies where appropriate.

A. ARM 17.8, Subchapter 1 – General Provisions, including, but not limited to:

1. ARM 17.8.101 Definitions. This rule includes a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.
2. ARM 17.8.105 Testing Requirements. Any person or persons responsible for the emission of any air contaminant into the outdoor atmosphere shall, upon written request of the Department, provide the facilities and necessary equipment (including instruments and sensing devices) and shall conduct tests, emission or ambient, for such periods of time as may be necessary using methods approved by the Department.
3. ARM 17.8.106 Source Testing Protocol. The requirements of this rule apply to any emission source testing conducted by the Department, any source, or other entity as required by any rule in this chapter, or any permit or order issued pursuant to this chapter, or the provisions of the Clean Air Act of Montana, 75-2-101, *et seq.*, Montana Code Annotated (MCA).

Knife River shall comply with the requirements contained in the Montana Source Test Protocol and Procedures Manual, including, but not limited to, using the proper test methods and supplying the required reports. A copy of the Montana Source Test Protocol and Procedures Manual is available from the Department upon request.



4. ARM 17.8.110 Malfunctions. (2) The Department must be notified promptly by telephone whenever a malfunction occurs that can be expected to create emissions in excess of any applicable emission limitation or to continue for a period greater than 4 hours.
5. ARM 17.8.111 Circumvention. (1) No person shall cause or permit the installation or use of any device or any means that, without resulting in reduction of the total amount of air contaminant emitted, conceals or dilutes an emission of air contaminant that would otherwise violate an air pollution control regulation. (2) No equipment that may produce emissions shall be operated or maintained in such a manner as to create a public nuisance.

B. ARM 17.8, Subchapter 2 – Ambient Air Quality, including, but not limited to:

1. ARM 17.8.210 Ambient Air Quality Standards for Sulfur Dioxide
2. ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide
3. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide
4. ARM 17.8.213 Ambient Air Quality Standard for Ozone
5. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter
6. ARM 17.8.221 Ambient Air Quality Standard for Visibility
7. ARM 17.8.223 Ambient Air Quality Standard for PM<sub>10</sub>

Knife River must maintain compliance with the applicable ambient air quality standards.

C. ARM 17.8, Subchapter 3 – Emission Standards, including, but not limited to:

1. ARM 17.8.304 Visible Air Contaminants. This rule requires that no person may cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes.
2. ARM 17.8.308 Particulate Matter, Airborne. (1) This rule requires an opacity limitation of less than 20% for all fugitive emission sources and that reasonable precautions be taken to control emissions of airborne particulate matter. (2) Under this rule, Knife River shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter.
3. ARM 17.8.309 Particulate Matter, Fuel Burning Equipment. This rule requires that no person shall cause or authorize to be discharged into the atmosphere particulate matter caused by the combustion of fuel in excess of the amount determined by this section.
4. ARM 17.8.310 Particulate Matter, Industrial Process. This rule requires that no person shall cause or authorize to be discharged into the atmosphere particulate matter in excess of the amount set forth in this section.
5. ARM 17.8.322 Sulfur Oxide Emissions--Sulfur in Fuel. This rule requires that no person shall burn liquid, solid, or gaseous fuel in excess of the amount set forth in this section.
6. ARM 17.8.340 Standard of Performance for New Stationary Sources. This rule incorporates, by reference, 40 CFR Part 60, NSPS. This facility is not an NSPS-

affected source because it does not meet the definition of any NSPS subpart defined in 40 CFR Part 60. Based on the information submitted by Knife River, the portable asphalt plant is not subject to NSPS standards because this plant consists of a portable 1971 asphalt plant. Since applicability to 40 CFR 60, Subpart I is limited to asphalt facilities that were constructed or modified after June 11, 1973, including reconstructed as per 40 CFR 60.15, the NSPS (40 CFR 60, Subpart A General Provisions, and Subpart I Hot Mix Asphalt Facilities) does not apply.

D. ARM 17.8, Subchapter 5 – Air Quality Permit Application, Operation, and Open Burning Fees, including, but not limited to:

1. ARM 17.8.504 Air Quality Permit Application Fees. This rule requires that an applicant submit an air quality permit application fee concurrent with the submittal of an air quality permit application. A permit application is incomplete until the proper application fee is paid to the Department. A permit fee is not required for the current permit action because the permit action is considered an administrative permit change.
2. ARM 17.8.505 Air Quality Operation Fees. An annual air quality operation fee must, as a condition of continued operation, be submitted to the Department by each source of air contaminants holding an air quality permit, excluding an open burning permit, issued by the Department; the air quality operation fee is based on the actual or estimated actual amount of air pollutants emitted during the previous calendar year.

An air quality operation fee is separate and distinct from an air quality permit application fee. The annual assessment and collection of the air quality operation fee, described above, shall take place on a calendar-year basis. The Department may insert into any final permit issued after the effective date of these rules, such conditions as may be necessary to require the payment of an air quality operation fee on a calendar-year basis, including provisions that pro-rate the required fee amount.

E. ARM 17.8, Subchapter 7 – Permit, Construction, and Operation of Air Contaminant Sources, including, but not limited to:

1. ARM 17.8.740 Definitions. This rule is a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.
2. ARM 17.8.743 Montana Air Quality Permits--When Required. This rule requires a person to obtain an air quality permit or permit alteration to construct, alter, or use any asphalt plant, crusher or screen that has the potential to emit (PTE) greater than 15 tons per year of any pollutant. Knife River has a PTE greater than 15 tons per year of particulate matter (PM)/ particulate matter with an aerodynamic diameter of 10 microns or less (PM<sub>10</sub>) and CO; therefore, an air quality permit is required.
3. ARM 17.8.744 Montana Air Quality Permits--General Exclusions. This rule identifies the activities that are not subject to the Montana Air Quality Permit program.
4. ARM 17.8.745 Montana Air Quality Permits--Exclusion for De Minimis Changes. This rule identifies the de minimis changes at permitted facilities that do not require a permit under the Montana Air Quality Permit Program.
5. ARM 17.8.748 New or Modified Emitting Units--Permit Application Requirements.  
(1) This rule requires that a permit application be submitted prior to installation, alteration, or use of a source. A permit application was not required for the current

permit action because the permit change is considered an administrative permit change. (7) This rule requires that the applicant notify the public by means of legal publication in a newspaper of general circulation in the area affected by the application for a permit. An affidavit of publication of public notice was not required for the current permit action because the permit change is considered an administrative permit change.

6. ARM 17.8.749 Conditions for Issuance or Denial of Permit. This rule requires that the permits issued by the Department must authorize the construction and operation of the facility or emitting unit subject to the conditions in the permit and the requirements of this subchapter. This rule also requires that the permit must contain any conditions necessary to assure compliance with the Federal Clean Air Act (FCAA), the Clean Air Act of Montana, and rules adopted under those acts.
7. ARM 17.8.752 Emission Control Requirements. This rule requires a source to install the maximum air pollution control capability that is technically practicable and economically feasible, except that BACT shall be utilized. The required BACT analysis is included in Section III of this permit analysis.
8. ARM 17.8.755 Inspection of Permit. This rule requires that air quality permits shall be made available for inspection by the Department at the location of the source.
9. ARM 17.8.756 Compliance with Other Requirements. This rule states that nothing in the permit shall be construed as relieving Knife River of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq.*
10. ARM 17.8.759 Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those permit applications that do not require the preparation of an environmental impact statement.
11. ARM 17.8.760 Additional Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those applications that require an environmental impact statement.
12. ARM 17.8.762 Duration of Permit. An air quality permit shall be valid until revoked or modified, as provided in this subchapter, except that a permit issued prior to construction of a new or altered source may contain a condition providing that the permit will expire unless construction is commenced within the time specified in the permit, which in no event may be less than 1 year after the permit is issued.
13. ARM 17.8.763 Revocation of Permit. An air quality permit may be revoked upon written request of the permittee, or for violations of any requirement of the Clean Air Act of Montana, rules adopted under the Clean Air Act of Montana, the FCAA, rules adopted under the FCAA, or any applicable requirement contained in the Montana State Implementation Plan (SIP).
14. ARM 17.8.764 Administrative Amendment to Permit. An air quality permit may be amended for changes in any applicable rules and standards adopted by the Board of Environmental Review (Board) or changed conditions of operation at a source or stack that do not result in an increase of emissions as a result of those changed conditions. The owner or operator of a facility may not increase the facility's emissions beyond permit limits unless the increase meets the criteria in ARM 17.8.745 for a de minimis

change not requiring a permit, or unless the owner or operator applies for and receives another permit in accordance with ARM 17.8.748, ARM 17.8.749, ARM 17.8.752, ARM 17.8.755, and ARM 17.8.756, and with all applicable requirements in ARM Title 17, Chapter 8, Subchapters 8, 9, and 10.

15. ARM 17.8.765 Transfer of Permit. (1) This rule states that an air quality permit may be transferred from one location to another if the Department receives a complete notice of intent to transfer location, the facility will operate in the new location for less than 1 year, the facility will comply with the FCAA and the Clean Air Act of Montana, and the facility complies with other applicable rules. (2) This rule states that an air quality permit may be transferred from one person to another if written notice of intent to transfer, including the names of the transferor and the transferee, is sent to the Department.

F. ARM 17.8, Subchapter 8 - Prevention of Significant Deterioration of Air Quality, including, but not limited to:

1. ARM 17.8.801 Definitions. This rule is a list of applicable definitions used in this subchapter.
2. ARM 17.8.818 Review of Major Stationary Sources and Major Modification--Source Applicability and Exemptions. The requirements contained in ARM 17.8.819 through ARM 17.8.827 shall apply to any major stationary source and any major modification with respect to each pollutant subject to regulation under the FCAA that it would emit, except as this subchapter would otherwise allow.

This facility is not a major stationary source because it is not a listed source and the facility's PTE is less than 250 tons per year of any pollutant (excluding fugitive emissions).

G. ARM 17.8, Subchapter 12 – Operating Permit Program Applicability, including, but not limited to:

1. ARM 17.8.1201 Definitions. (23) Major Source under Section 7412 of the FCAA is defined as any stationary source having:
  - a. PTE > 100 tons/year of any pollutant;
  - b. PTE > 10 tons/year of any one hazardous air pollutant (HAP), PTE > 25 tons/year of a combination of all HAPs, or lesser quantity as the Department may establish by rule; or
  - c. PTE > 70 tons/year of PM<sub>10</sub> in a serious PM<sub>10</sub> nonattainment area.
2. ARM 17.8.1204 Air Quality Operating Permit Program Applicability. (1) Title V of the FCAA Amendments of 1990 requires that all sources, as defined in ARM 17.8.1204 (1), obtain a Title V Operating Permit. In reviewing and issuing Air Quality Permit #2606-02 for Knife River, the following conclusions were made:
  - a. The facility's PTE is less than 100 tons/year for any pollutant, after restricting hours of operation.
  - b. The facility's PTE is less than 10 tons/year for any one HAP and less than 25 tons/year of all HAPs.

- c. This source is not located in a serious PM<sub>10</sub> nonattainment area.
- d. This facility is not subject to any current NSPS.
- e. This facility is not subject to any current NESHAP standards.
- f. This source is not a Title IV affected source or a solid waste combustion unit.
- g. This source is not an EPA-designated Title V source.

Based on these facts, the Department determined that this facility is not subject to the Title V Operating Permit Program. However, in the event that the EPA makes minor sources that are subject to NSPS obtain a Title V Operating Permit, this source will be subject to the Title V Operating Permit Program.

- h. ARM 17.8.1204(3). The Department may exempt a source from the requirement to obtain an air quality operating permit by establishing federally enforceable limitations which limit that source's PTE.
  - i. In applying for an exemption under this section the owner or operator of the facility shall certify to the Department that the source's PTE does not require the source to obtain an air quality operating permit.
  - ii. Any source that obtains a federally enforceable limit on PTE shall annually certify that its actual emissions are less than those that would require the source to obtain an air quality operating permit.
- 3. ARM 17.8.1207 Certification of Truth, Accuracy, and Completeness. The compliance certification submittal by ARM 17.8.1204(3) shall contain certification by a responsible official of truth, accuracy, and completeness. This certification and any other certification required under this subchapter shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

### III. BACT Determination

A BACT determination is required for each new or altered source. Knife River shall install on the new or altered source the maximum air pollution control capability which is technically practicable and economically feasible, except that BACT shall be utilized. A BACT determination was not required for the current permit action because the permit change is considered an administrative permit change.

### IV. Emission Inventory--Permit #2606-02

Source	PM	PM <sub>10</sub>	NO <sub>x</sub>	CO	VOC	SO <sub>x</sub>
Batch Mix Asphalt Plant	16.38	4.42	6.19	99.00	2.03	1.14
Asphalt Cement heater				0.08		
Batch Mix Plant Load-out	0.13	0.08		0.33	1.03	
Asphalt Product Silo Filling	0.15	0.06		0.29	3.02	
Cold Aggregate Screens & Storage Bins	5.35	3.27				
Cold Aggregate Handling/Conveyors	4.46	1.63				
Cold Aggregate Storage Piles	2.46	1.17				
Lime Silos	9.31	9.31				
Haul Roads/Vehicle Traffic	12.68	3.60				
<b>TOTAL EMISSIONS</b>	<b>50.90</b>	<b>23.55</b>	<b>6.19</b>	<b>99.71</b>	<b>6.07</b>	<b>1.14</b>

\*Asphalt Plant production restricted to 1,375 hours/year to maintain synthetic minor status.

### Batch Asphalt Plant

Maximum Process Rate: 360 tons/hr (Maximum Production Rate)  
Process Airflow Rate: 45,400 acfm = 27,790 dscfm  
Hours of operation: 1375 hr/yr

#### PM Emissions

Emission Factor: 0.10 gr/dscf (permit limit for pre-NSPS asphalt plant)  
Calculations:  $27,790 \text{ dscfm} * 0.10 \text{ gr/dscf} * 60 \text{ min/hr} * 1 \text{ lb}/7000\text{gr} = 23.82 \text{ lbs/hr}$   
 $23.82 \text{ lbs/hr} * 1375 \text{ hr/yr} * 0.0005 \text{ tons/lb} = 16.38 \text{ tons/yr}$

#### PM<sub>10</sub> Emissions:

Emission Factor: 0.027 lb/ton (AP-42 Section 11.1, Table 11.1-1, Batch Mix 3/04)  
Calculations:  $0.027 \text{ lb/ton} * 360 \text{ ton/hr} = 9.72 \text{ lbs/hr}$   
 $9.72 \text{ lbs/hr} * 1375 \text{ hr/yr} * 0.0005 \text{ tons/lb} = 6.68 \text{ tons/yr}$

#### NOx Emissions:

Emission Factor: 0.025 lbs/ton (AP-42, Table 11.1-5, Batch Mix 3/04)  
Calculations:  $0.025 \text{ lbs/ton} * 360 \text{ tons/hr} = 9.00 \text{ lbs/hr}$   
 $9.00 \text{ lbs/hr} * 1375 \text{ hr/yr} * 0.0005 \text{ tons/lb} = 6.19 \text{ tons/yr}$

#### CO Emissions:

Emission Factor: 0.40 lbs/ton (AP-42, Table 11.1-5, Batch Mix, Nat Gas, 3/04)  
Calculations:  $0.40 \text{ lbs/ton} * 360 \text{ tons/hr} = 144.00 \text{ lbs/hr}$   
 $144.0 \text{ lbs/hr} * 1375 \text{ hr/yr} * 0.0005 \text{ tons/lb} = 99.00 \text{ tons/yr}$

#### VOC Emissions:

Emission Factor: 0.0082 lbs/ton (AP-42, Table 11.1-6, Batch Mix, nat gas, 8/04)  
Calculations:  $0.0082 \text{ lbs/ton} * 360 \text{ tons/hr} = 2.95 \text{ lbs/hr}$   
 $2.95 \text{ lbs/hr} * 1375 \text{ hr/yr} * 0.0005 \text{ tons/lb} = 2.03 \text{ tons/yr}$

#### SOx Emissions:

Emission Factor: 0.0046 lbs/ton (AP-42, Table 11.1-5, Batch Mix, nat gas, 3/04)  
Calculations:  $0.0046 \text{ lbs/ton} * 360 \text{ tons/hr} = 1.66 \text{ lbs/hr}$   
 $1.66 \text{ lbs/hr} * 1375 \text{ hr/yr} * 0.0005 \text{ tons/lb} = 1.14 \text{ tons/yr}$

### Asphalt Cement Heater

Natural Gas Firing Rate: 2.2 MM Btu/hr (company information)  
Operating Hours: 8760 hrs/yr  
Conversion: 1050 MMBtu/MMscf natural gas  
Calculation:  $2.2 \text{ MMBtu/hr} / 1050 \text{ MMBtu/MMscf} * 8760 \text{ hrs/yr} = 18.35 \text{ MMscf/yr}$

#### CO Emissions

Emission Factor: 8.9 lb/MMscf (AP-42 Section 11.1, Table 11.1-13, Nat Gas, 3/04)  
Calculations:  $18.35 \text{ MMscf/yr} * 8.9 \text{ lb/MMscf} * 0.0005 \text{ lb/ton} = 0.08 \text{ ton/yr}$

### Batch Mix Plant Loadout

Process Rate: 360 ton/hr (Company Info)  
Hours of Operation: 1375 hr/yr

#### PM Emissions

Emission Factor: 0.00052 lb/ton (AP-42, Section 11.1, Table 11.1-14, 3/04)  
Calculations:  $0.00052 \text{ lb/ton} * 360 \text{ ton/yr} * 1375 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 0.13 \text{ ton/yr}$

#### PM<sub>10</sub> Emissions

Emission Factor: 0.00034 lb/ton (AP-42, Section 11.1, Table 11.1-14, 3/04)  
Calculations:  $0.00034 \text{ lb/ton} * 360 \text{ ton/yr} * 1375 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 0.08 \text{ ton/yr}$

#### CO Emissions

Emission Factor: 0.00135 lb/ton (AP-42, Section 11.1, Table 11.1-14, 3/04)  
Calculations:  $0.00135 \text{ lb/ton} * 360 \text{ ton/yr} * 1375 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 0.33 \text{ ton/yr}$

#### VOC Emissions

Emission Factor: 0.00416 lb/ton (AP-42, Section 11.1, Table 11.1-14, 3/04)  
Calculations:  $0.00416 \text{ lb/ton} * 360 \text{ ton/yr} * 1375 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 1.03 \text{ ton/yr}$

### Asphalt Product Silo Filling

Process Rate: 360 ton/hr (Company Info)  
Hours of Operation: 1375 hr/yr

#### PM Emissions

Emission Factor: 0.00059 lb/ton (AP-42, Section 11.1, Table 11.1-14, 3/04)  
Calculations:  $0.00059 \text{ lb/ton} * 360 \text{ ton/yr} * 1375 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 0.15 \text{ ton/yr}$

#### PM<sub>10</sub> Emissions

Emission Factor: 0.00025 lb/ton (AP-42, Section 11.1, Table 11.1-14, 3/04)  
Calculations:  $0.00025 \text{ lb/ton} * 360 \text{ ton/yr} * 1375 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 0.06 \text{ ton/yr}$

#### CO Emissions

Emission Factor: 0.00118 lb/ton (AP-42, Section 11.1, Table 11.1-14, 3/04)  
Calculations:  $0.00118 \text{ lb/ton} * 360 \text{ ton/yr} * 1375 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 0.29 \text{ ton/yr}$

#### VOC Emissions

Emission Factor: 0.01219 lb/ton (AP-42, Section 11.1, Table 11.1-14, 3/04)  
Calculations:  $0.01219 \text{ lb/ton} * 360 \text{ ton/yr} * 1375 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 3.02 \text{ ton/yr}$

### Cold Aggregate Screens and Storage Bins

Process Rate: 360 ton/hr (Company Info)  
Number of Transfers: 6  
Hours of Operation: 1375 hr/yr

#### PM Emissions

Emission Factor: 0.0036 lb/ton (AP-42, Section 11.19, Table 11.19-2-2, 8/04)  
Calculations:  $0.0036 \text{ lb/ton} * 360 \text{ ton/yr} * 6 \text{ transfers} * 1375 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 5.35 \text{ ton/yr}$

#### PM<sub>10</sub> Emissions

Emission Factor: 0.00025 lb/ton (AP-42, Section 11.19, Table 11.19-2-2, 8/04)

Calculations:  $0.00025 \text{ lb/ton} * 360 \text{ ton/yr} * 6 \text{ transfers} * 1375 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 3.27 \text{ ton/yr}$

### **Cold Aggregate Handling/Conveyors**

Process Rate: 360 ton/hr (Company Info)

Number of Transfers: 6

Hours of Operation: 1375 hr/yr

#### **PM Emissions**

Emission Factor: 0.003 lb/ton (AP-42, Section 11.19, Table 11.19-2-2, 8/04)

Calculations:  $0.003 \text{ lb/ton} * 360 \text{ ton/yr} * 6 \text{ transfers} * 1375 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 4.46 \text{ ton/yr}$

#### **PM<sub>10</sub> Emissions**

Emission Factor: 0.00025 lb/ton (AP-42, Section 11.19, Table 11.19-2-2, 8/04)

Calculations:  $0.00025 \text{ lb/ton} * 360 \text{ ton/yr} * 6 \text{ transfers} * 1375 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 1.63 \text{ ton/yr}$

### **Cold Aggregate Storage Piles**

Process Rate: 360 ton/hr (Company Info)

Number of Piles: 3

Hours of Operation: 1375 hr/yr

#### **PM Emissions**

Emission Factor: 0.00331 lb/ton (AP-42, Section 13.2.4, Table 13.2.4.3, 11/06)

Calculations:  $0.00331 \text{ lb/ton} * 360 \text{ ton/yr} * 3 \text{ piles} * 1375 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 2.46 \text{ ton/yr}$

#### **PM<sub>10</sub> Emissions**

Emission Factor: 0.00157 lb/ton (AP-42, Section 13.2.4, Table 13.2.4.3, 11/06)

Calculations:  $0.00157 \text{ lb/ton} * 360 \text{ ton/yr} * 3 \text{ piles} * 1375 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 1.17 \text{ ton/yr}$

### **Lime Silos**

Flow Capacity: 79,000 CFM (Company Info)

Hours of Operation: 1375 hr/yr

#### **PM Emissions**

Emission Factor: 0.02 gr/dscf (typical vendor guarantee)

Calculations:  $0.02 \text{ gr/dscf} * 79000 \text{ cfm} * 60 \text{ min/hr} * 1 \text{ lb/7000 grains} = 13.54 \text{ lb/hr}$

$13.54 \text{ lb/hr} * 1375 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 9.31 \text{ ton/yr}$

#### **PM<sub>10</sub> Emissions**

Emission Factor: 0.02 gr/dscf (typical vendor guarantee)

Calculations:  $0.02 \text{ gr/dscf} * 79000 \text{ cfm} * 60 \text{ min/hr} * 1 \text{ lb/7000 grains} = 13.54 \text{ lb/hr}$

$13.54 \text{ lb/hr} * 1375 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 9.31 \text{ ton/yr}$

### **Haul Roads**

Vehicle miles traveled: 5 VMT/day {Estimated}

#### **PM Emissions:**

PM Emission Factor (Rated Load Capacity <50 tons): 13.9 Lbs/VMT

Calculation:  $13.9 \text{ lb/VMT} * 5 \text{ VMT/day} * 365 \text{ days/yr} * 0.0005 \text{ ton/lb} = 12.68 \text{ ton/yr}$



PM<sub>10</sub> Emissions:

PM<sub>10</sub> Emission Factor (Rated Load Capacity <50 tons): 3.95 lb/VMT

Calculation: 3.95 lb/VMT \* 5 VMT/day \* 365 days/yr \* 0.005 ton/lb = 3.60 ton/yr

V. Existing Air Quality Impacts

This permit is for a portable asphalt plant located in various locations around Montana. There is no change in emissions through the current permitting action; therefore, there will be no air quality impacts.

VI. Taking or Damaging Implication Analysis

As required by 2-10-105, MCA, the Department conducted the following private property taking and damaging assessment.

YES	NO	
X		1. Does the action pertain to land or water management or environmental regulation affecting private real property or water rights?
	X	2. Does the action result in either a permanent or indefinite physical occupation of private property?
	X	3. Does the action deny a fundamental attribute of ownership? (ex.: right to exclude others, disposal of property)
	X	4. Does the action deprive the owner of all economically viable uses of the property?
	X	5. Does the action require a property owner to dedicate a portion of property or to grant an easement? [If no, go to (6)].
		5a. Is there a reasonable, specific connection between the government requirement and legitimate state interests?
		5b. Is the government requirement roughly proportional to the impact of the proposed use of the property?
	X	6. Does the action have a severe impact on the value of the property? (consider economic impact, investment-backed expectations, character of government action)
	X	7. Does the action damage the property by causing some physical disturbance with respect to the property in excess of that sustained by the public generally?
	X	7a. Is the impact of government action direct, peculiar, and significant?
	X	7b. Has government action resulted in the property becoming practically inaccessible, waterlogged or flooded?
	X	7c. Has government action lowered property values by more than 30% and necessitated the physical taking of adjacent property or property across a public way from the property in question?
	X	Takings or damaging implications? (Taking or damaging implications exist if YES is checked in response to question 1 and also to any one or more of the following questions: 2, 3, 4, 6, 7a, 7b, 7c; or if NO is checked in response to questions 5a or 5b; the shaded areas)

Based on this analysis, the Department determined there are no taking or damaging implications associated with this permit action.

VII. Environmental Assessment

This permitting action will not result in an increase of emissions from the facility and is considered an administrative action; therefore, an environmental assessment is not required.

Permit Analysis Prepared by: Christine Weaver

Date Prepared: July 1, 2007